

Application Serial No. 08/928,031
Amendment dated January 9, 2006
Reply to Office Action of October 4, 2005

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Amendment to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

1. (currently amended) A communications network, adapted for use with mobile wireless user terminals, said network comprising:

a packet-switched core network; and

a plurality of access points coupled to said core network, each said access point being adapted to provide any said user terminal with communications access to said core network when said any user terminal becomes affiliated with said access point, and including an address resolution cache which is adapted to store information representative of affiliation between said user terminals and said access points, and when a said user terminal changes its affiliation from a first said access point to a second said access point, an other node on said core network other than said first and second access points is adapted to continue to send data packets intended for receipt by said user terminal to said first access point until having updated its respective address resolution cache based on a message indicating that a said user terminal has changed its affiliation from said first access point to said second access point, and said first access point is adapted to continue to send said data packets received from said other node to said user terminal without sending said data packets to said second access point,

wherein when said user terminal changes its affiliation from a first said access point to a second said access point, an additional node other than said first and second access points and said other node is adapted to send data packets intended for receipt by said user terminal to said second access point after having updated its respective address resolution cache based on said message while said other node continues to send data packets intended for said user terminal to said first access point which continues to send said data packets received from said other node to said user terminal without sending said data packets to said second access point.

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2. (cancelled)
3. (currently amended) A communications network as claimed in claim 1 2, wherein:
said additional node includes a said access point.
4. (original) A communications network as claimed in claim 1, wherein:
said other node includes a said access point.
5. (original) A communications network as claimed in claim 1, wherein:
said second access point is adapted to issue said message over said core network as an
address resolution request for an address of said user terminal which has changed its affiliation
thereto.
6. (original) A communications network as claimed in claim 5, wherein:
said address resolution request includes an address resolution protocol request.
7. (original) A communications network as claimed in claim 5, wherein:
said address of said user terminal includes an Internet protocol address assigned to said
user terminal.
8. (original) A communications network as claimed in claim 1, wherein:
said access point with which a said user terminal is affiliated is adapted to transmit a
received data packet to said user terminal via a wireless communications link.
9. (original) A communications network as claimed in claim 1, wherein:
each said access point includes a wireless transceiver, adapted to transmit and receive
data packets to and from a said user terminal affiliated therewith via a wireless communications
link.

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10. (original) A communications network as claimed in claim 1, wherein:
each said address resolution cache includes an address resolution protocol cache.
11. (original) A communications network as claimed in claim 1, further comprising:
at least one of a media server, DNS server and an IP gateway router, each including a
respective an address resolution cache which is adapted to store information representative of
affiliation between said user terminals and said access points and is updateable based on said
message.
12. (original) A communications network as claimed in claim 11, wherein:
said other node includes said media server, said DNS server or said IP gateway router.
13. (original) A communications network as claimed in claim 11, wherein:
said address resolution cache includes an address resolution protocol cache.
14. (original) A communications network as claimed in claim 1, wherein:
each said access point is adapted to provide any said user terminal with communications
access to said core network when said user terminal is participating in an ad-hoc network.
15. (cancelled)
16. (cancelled)
17. (cancelled)
18. (cancelled)

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19. (currently amended) A method for performing handoff of mobile wireless user terminals between access points on a packet-switched core network in a communications network, each said access point being adapted to provide any said user terminal with communications access to said core network when said any user terminal becomes affiliated with said access point, and including an address resolution cache which is adapted to store information representative of affiliation between said user terminals and said access points, the method comprising:

when a said user terminal changes its affiliation from a first said access point to a second said access point, controlling an other node on said core network other than said first and second access points to continue to send data packets intended for receipt by said user terminal to said first access point until having updated its respective address resolution cache based on a message indicating that a said user terminal has changed its affiliation from said first access point to said second access point; and

while said other node continues to send said data packets to said first access point, controlling said first access point to continue to send said data packets received from said other node to said user terminal without sending said data packets to said second access point,

wherein when said user terminal changes its affiliation from a first said access point to a second said access point, controlling an additional node other than said first and second access points and said other node to send data packets intended for receipt by said user terminal to said second access point after having updated its respective address resolution cache based on said message while said other node continues to send data packets intended for said user terminal to said first access point which continues to send said data packets received from said other node to said user terminal without sending said data packets to said second access point.

20. (cancelled)

21. (currently amended) A method as claimed in claim 19-20, wherein:
said additional node includes a said access point.

22. (original) A method as claimed in claim 19, wherein:
said other node includes a said access point.

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23. (original) A method as claimed in claim 19, further comprising:
controlling said second access point to issue said message over said core network as an address resolution request for an address of said user terminal which has changed its affiliation thereto.

24. (original) A method as claimed in claim 23, wherein:
said address resolution request includes an address resolution protocol request.

25. (original) A method as claimed in claim 23, wherein:
said address of said user terminal includes an Internet protocol address assigned to said user terminal.

26. (original) A method as claimed in claim 19, further comprising:
controlling a said access point with which a said user terminal is affiliated is adapted to transmit a received data packet to said user terminal via a wireless communications link.

27. (original) A method as claimed in claim 19, wherein:
each said address resolution cache includes an address resolution protocol cache.

28. (original) A method as claimed in claim 19, wherein:
said other node includes a media server, a DNS server or an IP gateway router.

29. (original) A method as claimed in claim 19, further comprising:
controlling each said access point to provide any said user terminal with communications access to said core network when said user terminal is participating in an ad-hoc network.

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30. (currently amended) A computer-readable medium of instructions for controlling a communications network having access points on a packet-switched core network to perform handoff of mobile wireless user terminals between said access points, each said access point being adapted to provide any said user terminal with communications access to said core network when said any user terminal becomes affiliated with said access point, and including an address resolution cache which is adapted to store information representative of affiliation between said user terminals and said access points, the computer-readable medium of instructions comprising:

a first set of instructions which, when a said user terminal changes its affiliation from a first said access point to a second said access point, is adapted to control an other node on said core network other than said first and second access points to continue to send data packets intended for receipt by said user terminal to said first access point until having updated its respective address resolution cache based on a message indicating that a said user terminal has changed its affiliation from said first access point to said second access point; and

a second set of instructions which, while said other node continues to send said data packets to said first access point, is adapted to control said first access point to continue to send said data packets received from said other node to said user terminal without sending said data packets to said second access point, and

a third set of instructions which, when said user terminal changes its affiliation from a first said access point to a second said access point, is adapted to control an additional node other than said first and second access points and said other node to send data packets intended for receipt by said user terminal to said second access point after having updated its respective address resolution cache based on said message while said other node continues to send data packets intended for said user terminal to said first access point which continues to send said data packets received from said other node to said user terminal without sending said data packets to said second access point.

31. (cancelled)

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32. (currently amended) A computer-readable medium of instructions as claimed in claim ~~30~~ 31, wherein:

said additional node includes a said access point.

33. (original) A computer-readable medium of instructions as claimed in claim 30, wherein:

said other node includes a said access point.

34. (original) A computer-readable medium of instructions as claimed in claim 30, further comprising:

a fourth set of instructions which is adapted to control said second access point to issue said message over said core network as an address resolution request for an address of said user terminal which has changed its affiliation thereto.

35. (original) A computer-readable medium of instructions as claimed in claim 34, wherein:

said address resolution request includes an address resolution protocol request.

36. (original) A computer-readable medium of instructions as claimed in claim 34, wherein:

said address of said user terminal includes an Internet protocol address assigned to said user terminal.

37. (original) A computer-readable medium of instructions as claimed in claim 30, further comprising:

a fifth set of instructions, adapted to controlling a said access point with which a said user terminal is affiliated is adapted to transmit a received data packet to said user terminal via a wireless communications link.

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38. (original) A computer-readable medium of instructions as claimed in claim 30, wherein:

each said address resolution cache includes an address resolution protocol cache.

39. (original) A computer-readable medium of instructions as claimed in claim 30, wherein:

said other node includes a media server, a DNS server or an IP gateway router.

40. (original) A computer-readable medium of instructions as claimed in claim 30, further comprising:

a sixth set of instructions, adapted to control each said access point to provide any said user terminal with communications access to said core network when said user terminal is participating in an ad-hoc network.